

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
Reply to OA dated January 24, 2006

REMARKS

Claims 1, 2, 7 and 11 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicants regard as their invention. It is believed that this Amendment is fully responsive to the Office Action dated January 24, 2006.

Claims 1, 2 and 4 - 14 are currently pending in this patent application, claim 3 having been withdrawn, and claims 15 and 16 having been canceled. Claims 1 and 7 are independent claims.

In the outstanding Action, the following rejections are set forth:

(1) claims 1, 2, 4 and 7 - 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Aigner (U.S. Patent No. 6,734,770); and

(2) claims 5, 6, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aigner.

The applicants respectfully request reconsideration of this rejection.

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
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The applicants' claimed micro-switching device, as now recited in independent claim 1, includes a base substrate, a moveable portion, a movable contact conductor, a first stationary contact electrode, a second stationary contact electrode, and a first driving electrode. The claimed movable portion includes an anchor part and an extending part. The anchor part is connected to the base substrate. The extending part extends from the anchor part and faces the base substrate. A significant structural arrangement of the applicants' claimed invention, as now set forth in claim 1, include the claimed extending part including a body having an electrode carrying surface on a side opposite to the base substrate, and the movable contact conductor being provided on the electrode carrying surface of the extending part. As now further recited in independent claim 1, the first stationary contact electrode is fixed to the base substrate and includes a first contacting part facing the movable contact part. The second stationary contact electrode is fixed to the base substrate and includes a second contacting part facing the movable contact part. A significant structural arrangement of the claimed invention further includes the first driving electrode being formed on the electrode carrying surface of the extending part separately from the body.

Moreover, the applicants' claimed invention, as now recited in independent claim 7, is directed to a micro-switching device having a base substrate; and a movable portion including an anchor part and an extending part, the anchor part being connected to the base substrate, the extending part extending from the anchor part and facing the base substrate, wherein the extending

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
Reply to OA dated January 24, 2006

part comprises a body having an electrode carrying surface on a side opposite to the base substrate. The claimed invention, as now set forth in claim 7, further includes a stationary member connected to the base substrate; a movable contact conductor provided on the electrode carrying surface of the extending part; a first stationary contact electrode connected to the stationary member and including a first contacting part facing the movable contact part; a second stationary contact electrode connected to the stationary member and including a second contacting part facing the movable contact part; and a first driving electrode formed on the electrode carrying surface of the extending part separately from the body.

Significant structural arrangements of the applicants' claimed micro-switching device, as now recited in independent claim 7, include the claimed extending part with a body having an electrode carrying surface on a side opposite to the base substrate, and the claimed movable contact conductor being provided on the electrode carrying surface of the extending part. An additional significant structural arrangement of the applicants' claimed invention, as now recited in claim 7, is the claimed first driving electrode being formed on the electrode carrying surface of the extending part separately from the body.

The above-discussed significant structural arrangements, as now recited in independent claims 1 and 7 as indicated in the above-underlined comments above, are shown in the applicants' Figures in which the extending part 112 is shown to include a body 112a, 112b having an upper

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
Reply to OA dated January 24, 2006

surface (electrode carrying surface) on which the movable contact conductor 131 and the first driving electrode 133 are formed. Since the movable contact conductor 131 and the first driving electrode 133 are formed on the same electrode carrying surface of the extending part 112, they can be formed simultaneously in the same manufacturing step, as shown in the applicants' Figure 6B.

The Examiner has taken the position that Aigner shows a micro-relay, which comprises a base substrate 1, a movable portion 9, a movable contact conductor 71, 72, a first stationary contact electrode 31, a second stationary contact electrode 32, and a first driving electrode 6 (actuator electrode). The applicants submit, however, that the actuator electrode 6 is formed by doping the body of the movable portion 9 with a dopant (see, lines 11 - 14, column 4 in Aigner) so that the doping process must be performed separately from the formation of the movable contact conductor 71, 72, and an additional insulating layer 21, 22 must be interposed between the actuator electrode 6 and the movable contact conductor 71, 72. In Figure 3, it is noted that the other electrodes 53, 54 are stationary electrodes.

It is thus submitted that, based on the above applicants' comments, the above-discussed significant claimed structural arrangements, as now recited in independent claims 1 and 7, are not disclosed in Aigner. As such, since not all of the claimed elements, as now set forth in claims 1 and 7, are found in exactly the same situation and united in the same way to perform the identical function Aigner's device, there can be no anticipation of the claimed invention based on the

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
Reply to OA dated January 24, 2006

teachings of Aigner.

Also, at least for the reasons set forth above, the claimed invention, as recited in claims 2 and 4 (which depend on claim 1) and claims 8 - 12 (which depend on claim 7), is similarly not anticipated by Aigner.

Also, for the reasons discussed above, the applicants' claimed invention, as now recited in claims 5 and 6 (which depend on claim 1) and claims 13 and 14 (which depend on claim 7), would not have been obvious to a person of ordinary skill in the art based on the teachings of Aigner.

In view of the above, the withdrawal of the outstanding rejection under 35 U.S.C. 102(e) based on Aigner (U.S. Patent No. 6,734,770), and the outstanding rejection under 35 U.S.C. 103(a) as being unpatentable over Aigner is in order, and is therefore respectfully solicited.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.


If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. 10/710,589
Amendment filed June 22, 2006
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In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosure: Petition for Extension of Time